Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

PAPERS

IN

MANUFACTURES.

MANUFACTURES.

A Bounty of TWENTY-FIVE GUINEAS was this Session voted to Mr. JAMES BIRCH, of Tavistock-Mews, Tavistock-street, Tottenham-Court-road, for his Improvement of a SWIVEL LOOM, to weave Satin Guard or figured Laces; a Model of which, and Patterns of the articles wove, are reserved in the Society's Repository, for public inspection.

The following COMMUNICATION was received from him.

SIR,

UNDERSTANDING that the Society of Arts is established to promote the arts and manufactures of this country, I take the liberty of informing you, that, after two years trouble and much expense, I have brought to perfection a new-invented Figure Swivel

Loom, that makes the satin guard lace, or any other figured lace, in as easy a manner as a common swivel loom can make the common work in the usual way. The above-mentioned Loom is a complete piece of machinery, and I presume is worthy of notice, being an entire new invention.

Any Member of the Society may see the above Loom at work, by applying at my house.

I am, Sir,
Your obedient humble servant,
JAMES BIRCH.

December 6, 1802.

CHARLES TAYLOR, Esq.

Description of Mr. BIRCH's *Loom.*

This Loom is worked by a circular motion of the hands, without treadles or any application of the feet. A wood bar to which the hands are applied, works two cranks on a long iron axle, extending the width of the loom; one

one crank is near each end of the above axis, a fly wheel is attached to one of the ends of the axis, to regulate the motion of the machinery; an endless screw, placed upon the axis, works a star wheel underneath it, which turns a barrel, that has a resemblance to that of a hand-organ, and has wooden pegs fixed in different parts around it: these pegs catch upon levers, which draw forward the cords which form the figure, and pull them down by a claw, which secures the cords thus brought within its power, and by that means raise the upper geer connected with the cords.

In this Loom, fourteen pieces of satin guard, or bed lace, are wove at the same time, either of one pattern and breadth, or all of different patterns and breadths, as may be required. The figure may be extended to any number of shoots desired.

The Loom takes up no more space than a common swivel loom, such as is

employed in plain work; it appears to work with ease and expedition, to make good work, and to be easily managed. It does not break or chafe the silk during its working. The weaver can move to any part of the front of the loom to inspect the work, and continue the motion during that time, and the figure or pattern may be formed double the length of those usually done in the engine loom; the loom can be stopped when required at any one shoot of the shuttle; and it will answer to weave articles made of silk, wool, cotton, or linen, or mixtures of those articles, or gold and silver lace; and performs its work in half the time of an engine loom.

A common swivel loom costs about thirty pounds; and this invention may be added to it for six pounds more.

A Certificate

A Certificate from Mr. Thomas Ikin, of Maiden-lane, manufacturer, states,—that James Birch is the sole inventor and maker of the above Swivel Loom; that it makes different sorts of figured lace at one time, in silk, cotton, worsted, or thread; and that by this Loom the above-mentioned work may be made at considerably reduced prices, to what it can be done in any other loom.

Certificates also from Matthew Birch, William Rylance, and Issachar Thorpe, weavers, confirm the above statement as an undeniable fact.

A Bounty

A Bounty of TWENTY GUINEAS was this Session voted to Mr. JAMES PICKARD, of No. 32, Skinner-street, Bishopsgate-street, for an improved ENGINE LOOM, to make Satin Guard, &c. a Model of which is placed in the Society's Repository, for public inspection.

The following COMMUNICATION was received from him.

SIR,

MY improved Engine Loom, to make Satin Guard, &c. will stand in a room that is only six feet high; whereas in the old way a ceiling of nine feet high was frequently obliged to be cut through, to enable the loom to work. A man may weave one-third more work in this than in the old engine loom, and with less fatigue. It requires not one-fifth of the weight to work the treadles, nor

nor one-fourth of the motion of the legs to the treadles: it was formerly hard labour for a man, but it may now be worked with ease by a boy. In this Loom, he can see all his work clear before him, but in the old engine-loom he cannot. The Loom is now at work, and may be inspected.

I am, Sir,
Your humble servant,
JAMES PICKARD.

No. 32, Skinner-ſtreet, Feb. 1, 1804.

CHARLES TAYLOR, Esq.

Description of Mr. PICKARD's *Loom.*

This Loom weaves fourteen pieces of Satin Guard Lace at once: it is on a simpler construction than the old engine loom, which weaves the same article; and work can be done with it at less expense, and better. It does not appear to require half the weight of lead-work, or half the quantity of thread-work;

work; the tread is very easy; the threads of the warp slide through perforated glass beads; leaden rods are hung to these beads, by which means the threads of the warp, after being raised by the treadles and geer, are returned or brought down to their proper level after the shuttles are thrown.

Different patterns may be wove at the same time in this loom; a treadle is necessary to every shoot, and the figure may be worked of the length of ten shoots forwards, and nine backwards.

The cords in this Loom are much shorter than in the old engine-loom, and not so liable to contract or dilate by change of weather.

A loom on the old principle will cost sixteen or seventeen pounds, but on this plan only nine pounds, and it may be worked by a boy or girl of fourteen years of age.

Mr. Abraham Felton, foreman to Messrs. Clay and Smith, silk-manufacturers,

turers, Cheapside, gave it as his opinion, that Mr. Pickard's Loom is an improvement upon the old engine looms; is much more simple, and performs the work with less trouble; that it is put to work with much less expense; and he believes it will enable the weaver to do one-fourth more work with ease in the same time.

A letter from Mr. J. Stokes, silk-manufacturer, in Gutter-lane, certifies, that the Satin Guard Loom, invented and worked by Mr. Pickard, is entitled to a considerable degree of merit, as it relieves the person who works it from much exertion, the nature of which is very apt to injure the health; that men of all sizes are equally capable of working this Loom with ease and more expedition.